RCA-41

POWER-AMPLIFIER PENTODE

1 9/16" MAX.
4 3/16" MAX.
3 9/16" MAX.

G2 G1 K G3 H H

The 41 is a power-amplifier pentode of the heater-cathode type for use in the audio-output stage of radio receivers with 6.3-volt heater supply. The tube is capable of giving a large power output with a relatively small input-signal voltage.

CHARACTERISTICS

HEATER VOLTAGE (A. C. or D. C.)				6.3	Volts
HEATER CURRENT				0.4	Ampere
PLATE VOLTAGE	100	135	180	250 *max.*	Volts
SCREEN VOLTAGE	100	135	180	250 *max.*	Volts
GRID VOLTAGE	−7	−10	−13.5	−18	Volts
PLATE CURRENT	9.0	12.5	18.5	32	Milliamperes
SCREEN CURRENT	1.6	2.2	3.0	5.5	Milliamperes
PLATE RESISTANCE (Approx.)	103500	94000	81000	68000	Ohms
AMPLIF. FACTOR (Approx.)	150	150	150	150	
TRANSCONDUCTANCE	1450	1600	1850	2200	Micromhos
LOAD RESISTANCE	12000	10400	9000	7600	Ohms
SELF-BIAS RESISTOR	660	680	630	480	Ohms
POWER OUTPUT*	0.33	0.75	1.5	3.4	Watts
BULB					ST-12
BASE					Medium 6-Pin

* 10% total harmonic distortion.

INSTALLATION AND APPLICATION

The **base** pins of the 41 fit the standard six-contact socket which may be installed to hold the tube in any position. For **heater** operation and **cathode** connection, refer to INSTALLATION on type 6A8.

For the **power amplifier** stage of receivers, the 41 may be used either singly or in push-pull combination. More than one audio stage preceding the 41 is undesirable because of the possibility of microphonic disturbances resulting from the high level of amplification.

If a single 41 is operated self-biased, the self-bias resistor should be shunted by a suitable filter network to avoid degenerative effects at low audio frequencies. The use of two 41's in push-pull eliminates the necessity for shunting the resistor. The self-bias resistor required for two 41's in the same stage is one-half that for a single stage.

Any conventional type of **input coupling** may be used provided the resistance added to the grid circuit by this device is not too high. Transformer or impedance coupling devices are recommended. If, however, resistance coupling is employed, the grid resistor should not exceed one megohm with self-bias, provided the heater voltage does not rise more than 10% above the rated value under any condition of operation. When self-bias is not used, the value should be limited to 100000 ohms.

An **output transformer** should be used to supply power to the winding of the reproducing unit. The optimum value of load resistance for a single tube is given under CHARACTERISTICS. For push-pull operation, the plate-to-plate load resistance should be twice that for a single tube. For best results, the impedance in the plate circuit of the 41 should be as uniform as possible over the entire audio-frequency range.

A family of plate characteristic curves is given on the preceding page.